# Green Building for Transportation Infrastructure

## Military Road South at South 272nd Street Intersection Improvement Project with Low Impact Development

*Military Road South at South 272nd Street Intersection Improvement Project Vicinity - 2005 Color Aerial Photo*


## What makes this project green?

*In addition to improving traffic conditions at the intersection of Military Road South and South 272nd Street, this project will incorporate Low Impact Development (LID) approaches such as porous cement concrete sidewalks and a bioretention stormwater facility/rain garden. Although LID approaches have been widely applied to residential streets, this project demonstrates the potential for utilizing LID approaches in the alternative context of larger scale transportation infrastructure projects.*

## What are some reasons for using Low Impact Development (LID) on this project?

- *Reduces the amount of new impervious surface*
- *Helps maintain natural hydrology*
- *Helps protects Star Lake and nearby wildlife habitat from high storm flows*
- *Lowers the cost of stormwater infrastructure by eliminating the need for a stormwater vault or large R/D pond.*
- *Improves the appearance and aesthetics of the roadway*

## What is a bioretention area?

*A bioretention area, also known as a rain garden, is a vegetated closed depression that retains and filters stormwater runoff from an area of impervious surface such as pavement. This project will be constructing a vegetated bioretention area. It will be used primarily for water quality treatment, but the amended soil layer, which acts as a sponge holding water, will also provide some flow control. A theoretical design is shown below.*

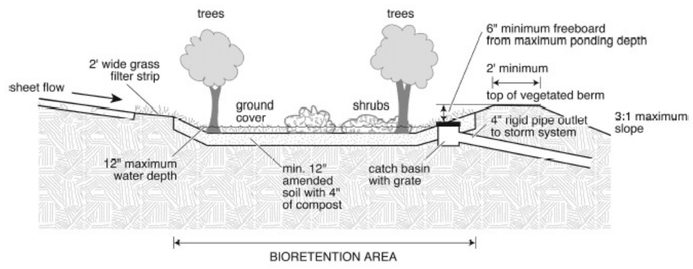



*Image Source: 2005 King County Surface Water Design Manual*

## Did you know?

**This project is one of the Washington State Department of Ecology's 2007 Low Impact Development Grant Program demonstration projects.**

This project received a grant offer of $424,375 from Ecology's 2007 Low Impact Development Stormwater Management Grants Program to fund the following activities:

- The construction of porous concrete sidewalks and a bioretention facility/rain garden
- The development and implementation of a monitoring program to monitor the performance of the sidewalks and bioretention facility for a period of 3 years after construction
- The development of public outreach and educational measures to share knowledge about the LID components of this project (e.g., interpretive signage at the project site, a website, project tours, public presentations, and writing articles for publication).

More information on this grant program can be found on Ecology's website:
http://www.ecy.wa.gov/programs/wq/wqhome.html

## What plants will be planted in the bioretention area?

*The plants that will be planted in the bioretention area are commonly found in wetlands in the Pacific Northwest. Wetland vegetation can help improve water quality by filtering out pollutants.*

Small-Fruited Bulrush (*Scirpus microcarpus*)

Dagger Leaf Rush (*Juncus ensifolius*)

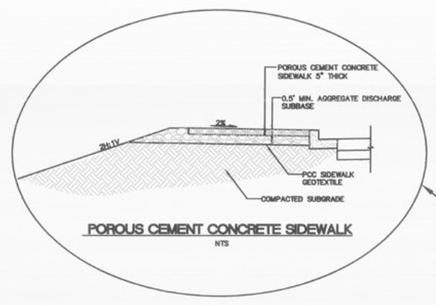
Sawbeak Sedge (*Carex stipata*)

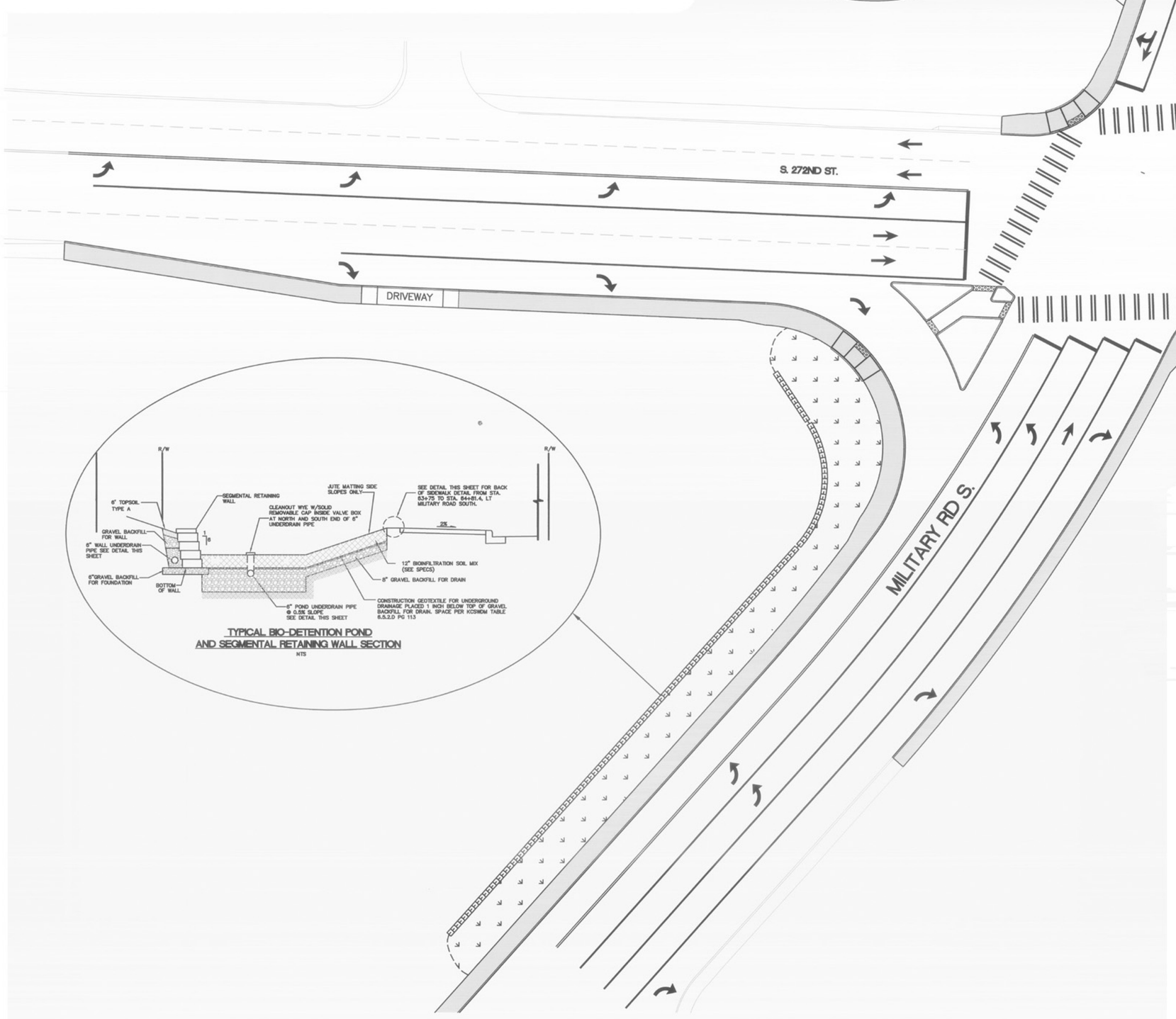
Slough Sedge (*Carex obnupta*)

Burreed (*Sparganium emersum*)

## What is porous concrete sidewalk?

*Porous concrete sidewalk is a cement mixture that contains voids when hardened. These voids allow water to drain through the sidewalk surface and infiltrate directly into the soil below. This project will be using porous concrete sidewalks on all four legs of the intersection.*





### Project Team

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